

Cycling Safety in Rural Roads

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Workshop overview

Personal Safety - Preparation: bike, clothing and helmet and lights
- Road positioning & other road savvy safety tips

Training Options

Campaigns

1) Personal Safety- preparations

☠ **Bike**

This should be obvious – but is often overlooked. It is all too easy to plan journey time, but not factor in time for checking that our method of transport is in good condition. There are some obvious checks that we are more likely to see to, such as checking that there is enough air in the tyres, but a thorough check of the bike as a whole is needed – perhaps not every time, but regularly.

There are some good bike check forms that you can use to guide you if you are new to this. Cycling Scotland have resources for Bike Ability – the scheme now in place for teaching younger cyclists, which replaces Cycling Proficiency. These resources are good for children, parents and adults alike. You will find a check list, a pictorial check, and also a description of the different parts of the bike, and what to look for, so the first few times you can use whichever guide suits you the best. Crucially, you want to check your **tyres** – not just for air, but for tread, and if there are any objects stuck in your tyres, you want to check that both **front and back brakes** are working – and that **the brakes are connected!** (This is easy to forget if you have taken a wheel off and put it back on again). You want to check that the **chain moves freely – and is oiled**. You need to check that the saddle is firmly fitted, and is at the right height for you. And finally, you want to **check your frame** to make sure that the structure is fine, and that there are no cracks. A friend had a nasty accident in Edinburgh on his bike, and ended up with a broken collar bone, when the part of the frame sheared off while he was riding. Perhaps there might have been early signs of the damage to have been spotted on the frame before he set off...

On-going cleaning and maintenance will help look after your bike might get you more use and life out of the various components, and save you money. However regularly checking its roadworthy-ness for journeys is part of keeping safe on your bike.

☠ **Clothing**

Depending on your relationship with cycling and your bike, you may have quite diverse views on clothing for cycling. Some people who regard cycling as a practical way of getting from A to B wish to be able to ride in everyday clothes, and shun lycra, padding etc. There are some trendy options of (expensive) every day style clothing with reflective bands sewn into the trousers, or other practical adaptations – however these, I imagine, appealing more to urban cyclists. Whereas for other cyclists, having the latest kit can help improve performance and comfort or just be more practical if you are riding long enough or hard enough to get sweaty. Whatever your take on what to wear on the bike, there may be an opportunity to improve your safety with a few careful choices. If you are at the more everyday clothing end of the spectrum, you will still benefit from putting some thought into the cycling part of your day when choosing what to wear. There are some obvious things to try and avoid – such as loose shoe-laces or wide trouser-legs which can get caught in your chain – simple solutions – to check your laces at the start, and maybe even tuck the ends into your shoe, and for the trouser-legs – tucking the bottom into your sock, or using trouser clips. Also problematic are long dangly scarves which could get such in a wheel. Even an oversized or long jacket can cause problems if it causes problems with getting in and out of the saddle.



Cycling Scotland Bike Ability training image

Road Safety Scotland Says:

<http://www.road-safety.org.uk/cycling/what-to-wear/>

“Cyclists' clothing should be bright. During the day wear fluorescent 'day-glo' colours. At night wear reflective clothing – remember to fit lights front and rear to your bike at night, lights are a legal requirement. A helmet will not prevent an accident. However, if it is fitted properly, it may help to protect your head if you have an accident.

Safe clothing

What kids and adults wear when riding a bike is also very important for safety:

- Fluorescent or bright-coloured clothes will help cyclists be visible on the road. (Avoid dark clothes, especially during early dusk and twilight hours.)
- Lightweight clothes will help cyclists avoid becoming overheated.
- Pant legs shouldn't be too loose-fitting or flared. These can get caught up in the chain while riding.
- When wearing a backpack while riding, make sure the straps are tied up and can't get tangled in the spokes of the wheels”

However in addition to this advice, there has been a recent (ish – 2011) study by the Transport Research Laboratory, which used to be affiliated to the Department of Transport (but was sold in 1996). While this was on motorcyclist visibility, much of the findings are transferable to cyclists.

(Taken from a Guardian Bike Blog article:)

The authors looked at 12 studies dating back as far as 1969, a number of which seemed to show that a fluorescent jacket or similar garb made riders more visible. However, the paper notes that many of these put the bikes against relatively uniform backdrops rather than the every-varying contrast of a moving landscape.

One study, from 2011, appeared to show that drivers saw moving motorbikes more quickly if there was a **greater colour contrast** between the background and the rider's clothes. Another, from last year, concluded that **depending on the road and traffic the most visible rider apparel could be a high-vis jacket, a white jacket or even a black jacket.**

The TRL's report says:

“The results are interesting in that they show the previously held assertion that a bright reflective jacket will improve rider conspicuity may not always be true ...”

The message seems to be that the most conspicuous outfit will be dictated by the lighting conditions and local environment at the time, which may be extremely variable within the confines of even a fairly short ride.

In the conclusion they add:

“Given that environments may differ over even fairly small changes in time or location, there is not likely to be a one-size-fits-all solution, meaning that motorcyclists need to be aware of the limitations of whichever interventions they use.”

This is an important message. Albeit once again (I'm sorry) a nuanced one. I'm not encouraging anyone to throw out their high-vis vest. At the very, very least it most likely won't do any harm, beyond maybe getting you a bit sweaty, and it might do some good. **But – and this is the key – don't head out there assuming you'll automatically be seen just because you've dressed head to toe in incandescent yellow.**

That said, the lessons only pertain to daylight hours. Virtually all high-vis items have reflective patches or strips, which are, without doubt, a boon after dark.”

☠ **Helmet**

In some circles, the cycling helmet is hotly debated. At present, cyclists are not obliged to wear a helmet by law. Though the Highway Code suggests that cyclists

should wear a cycle helmet “*which conforms to current regulations, is the correct size and securely fastened.*”

Some people have no helmet whatsoever, as perhaps when they learned to ride their bike as a child, helmets for cyclists were not available, let alone not the norm, and they have stuck with this approach. Some people don't like helmets for aesthetic or comfort reasons – their hair style might get messed up, they worry their head will get hot, or that the helmet may be uncomfortable. There are also those who have heard of a study (2006, University of Bath) which found that you were more likely to be hit if you wore a helmet on your bike than if you did not. This was deemed to be for psychological reasons – drivers were thought to assess the cyclist, and give a margin of error when passing that reflected the perceived competency of the cyclist. The same university has produced more recent studies following a similar theme, looking at the whole cyclist outfit, from lycra, to high-vis bibs which mimic police-wear. This approach to non-helmet wearing is, therefore a deliberate attempt at *improving* safety by making an accident a little less likely. But the Royal Society for the Prevention of Accidents (RoSPA) said tests have shown helmets protect against injuries. We can also look at recent RoSPA figures on cycling accidents, and find that even more so for rural cycling, head injuries are a concern. A study of hospital data on cycling fatalities showed that 70% had head injuries in London area, compared with 80% on rural roads. Also, in the summary of the report it is stated:

“Not surprisingly, the severity of injuries suffered by cyclists increases with the speed limit, meaning that riders are more likely to suffer serious or fatal injuries on higher speed roads. Almost half of cyclist deaths occur on rural roads.”

(from: <http://www.rospa.com/roadsafety/adviceandinformation/cycling/facts-figures.aspx>)

This is not particularly comforting reading for rural cyclists, but it certainly makes me personally wish to protect myself and wear a helmet to minimise damage should an accident take place on rural roads. When we take to the roads on our bikes, there are lots of factors which effect whether or not we might be involved in an accident – I take the view that of the factors that are beyond our control – the possible mistakes made by other road users, for example, or the condition of the roads (black ice, diesel or oil spills, pot holes) I want to have some protection in place.

We will look in more detail about causes of accidents and ways to reduce risk in the section on riding style and road positioning / being road savvy.

There's a useful article on checking your helmet (mountain biking) from BikeRadar – which concludes that if you suffer a bump to the helmet, replace it, and buy the best that you can afford.

<http://www.bikeradar.com/mtb/gear/article/trail-tech-helmet-safety--38165/>



Lights

In rural cycling, use of lights is not just about being seen, but being able to see the road – and to spot the pot holes! Pay attention to the time of day that it gets dark as the year progresses. The weather conditions also make a difference – if it is wet, or overcast, it can seem darker earlier than it would at the same time of year on a fine day. If you are likely to cycling close to the time that it gets dark (or “lighting up time” – the time when the street lights go on, and motorists are advised to use their car headlamps) pack a light!

Bike lights seem to be getting better and better just now - last year’s best buy easily being eclipsed (!) by this year’s.

As with advice on helmets, buy the best that you can afford, and keep on top of either keeping the batteries charged, or having spare lighting options. If you are cycling on rural roads as part of commuting, there are some modern lights with usb ports which can charge during the day on your computer – these may suit you, and allow you always to have plenty o charge on you lights for your journey home.

2) Personal Safety - road positioning and general road savvy

☠ **Road positioning- primary “taking the lane” and secondary**
 (based on <http://www.cyclescheme.co.uk/community/how-to/road-positioning>)

Riding further out from the edge of the road is safer, faster, and helps prevent motorists from cutting you up. Never hug the kerb / road edge. That's rule one of

I can stay here and squeeze past.

I need to change lanes.

How wide he thinks his car is


Where Savvy Cyclists ride to discourage that mistake.

How wide it really is

MAY USE FULL LANE

CHANGE LANES TO PASS

Most lanes are too narrow for a car to pass a bicyclist safely within the lane. Savvy Cyclists make that clear by leaving less space to their left. This is defensive driving. And it is legal in all 50 states. Regardless of where a bicyclist is, please don't risk a mistake. Change lanes to pass.

i am traffic.org  /iamtrafficorn

road positioning on a bicycle. You need to be further out into the road, sometimes right in the middle of the traffic stream. Less assertive cyclists worry that being

further out may put them in the way of the traffic. It won't: you are the traffic. Being in the traffic stream helps you to get treated like traffic.

Reducing risk

It can feel safer to ride in or near the gutter. It isn't safer. It vastly increases the chances of drivers buzzing past you with inches to spare. You'll have to contend with drains, cambered surfaces, and debris like broken glass that has been 'swept' to the edge of the road by the action of car tyres. And you're less likely to be seen at all by drivers.

The commonest type of car-cyclist collision is the 'Sorry, mate, I didn't see you' variety. You must register in a driver's field of vision. You'll do that best by cycling where they are looking. Drivers look where their vehicle will be in the next few seconds, which is to say: ahead of them. They pay much less attention to people and objects in their peripheral vision.

Initially, you may feel exposed exposed riding further out from the kerb. But it's very rare for cyclists to get rear-ended by drivers.

Being safe is being seen – and forcing drivers to react to your presence.

Controlling your space

Drivers are obliged by the Highway Code (Rule 163) to give you 'at least as much room as a car' when overtaking. Let that sink in: at least as much room as a car. That means that they should pull out, cross the central, dashed white line, and pull in again.

By riding further out from the edge of the road, you force following traffic to overtake you properly instead of squeezing past dangerously close. Are you inconveniencing anyone? Only those drivers who would not have overtaken you safely in the first place.

As a rule of thumb, your distance from the kerb is the same distances that drivers will give you when overtaking.

How far from the kerb / road edge?

You never want to be closer than 50cm from the kerb / road edge. Often you'll be a metre out, sometimes more. The key factor is not so much the edge of the road as the location of the traffic stream on that road; that is, where cars are actually driving in that traffic lane.

There are essentially two cycling positions to choose from, relative to the traffic stream. One is the centre of the traffic stream – that is, the centre of the lane, rather than the centre of the road. You'll sometimes hear this called 'the primary position', but it's easier to think of it as 'taking the lane'.

The other position is about a metre to the left of the traffic stream, so long as that doesn't bring you too close to the kerb. Sometimes called 'the secondary position', you can think of it simply as 'not taking the lane'.

When to take the lane

If you can keep up with the traffic, such as around town, it's safest to take the lane. It's also the position to adopt when you want to dissuade drivers from doing something stupid, like cutting you up. Here's a non-exhaustive list of situations when it's best to take the lane / use primary position.

- Approaching a pinch point, such as pedestrian island in the centre of the road.
- Approaching and negotiating a roundabout.
- Approaching Give Way markings.
- Approaching a side road, to prevent drivers from 'left-hooking' you and to help drivers on the side road to see you.
- Approaching traffic lights.
- Approaching a blind corner.
- Negotiating a junction.
- In queues of stationary traffic.
- Overtaking parked cars.

When not to take the lane

If you're not confident in taking the lane/ riding in primary position, especially when simply riding along, don't feel that you have to. If the road is busy and the traffic is moving faster than you can, either because it's a fast road or a steep hill, you're often better not taking the lane. This is a courtesy to drivers, enabling them to overtake you more easily.

Your safety is paramount, so you should not feel pressured "staying out of the way". If a driver pips his horn at you, relax in the knowledge that he has seen you.

Changing positions

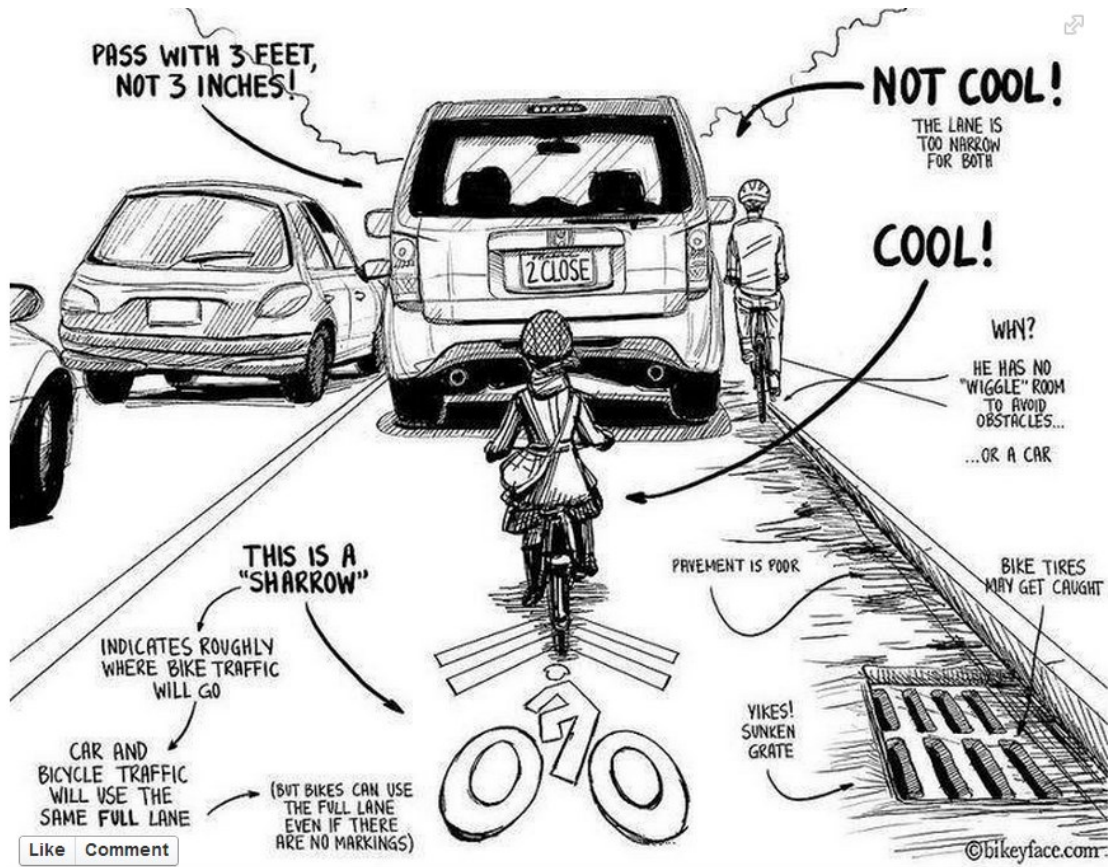
Unless you're taking evasive action, any change in position should be gradual – particularly when moving out to take the lane. Check back to see where any following traffic is, then gradually move into your new position. If you check back early enough, you may not need to signal to change your position within a traffic lane. Signal when you need to communicate your intention to drivers who are closer.

Don't assume that you can move left to the secondary position without checking behind you. Around town, another cyclist or a moped rider may be about to 'undertake' you.

Two abreast

Cyclists are allowed to ride two abreast, although most drivers are not aware of this. On fast or busy roads, it is courteous to single out to make it easier for drivers to pass.

Cyclists are allowed to stop on double-yellow lines. Again, drivers may be unaware of this.



The cyclecraft book by Jon Franklin is the main reference in the UK for cycle safety, and is issued to cycle trainers. If you have the opportunity, it is worth a read – even just dipping into some sections will give you food for thought on improving safety through improved cycling style.

If you can take the time, I really recommend looking through the US website <http://cyclingsavvy.org/how-my-driving/> - both for the animation and videos, as well as information in general.. The animation on identical traffic scenarios when adopting different road positions is really enlightening, highlighting the ways in which occupying the lane makes you safer, as you are more visible and have more time to react. Also there is a video on the site, where different road positions are used on real roads – and how motorists overtake is filmed. The more defensive, wider into-the-road position results in motorists crossing the line more often when overtaking, rather than sharing the lane.

☠ Observation and anticipation

When cycling as with driving, it is possible to minimise risk by putting good observation skills in to practice, and anticipating road behaviours of others. When

on our bikes we have the benefit of having a little extra information available to us – we can hear. The sounds other vehicles make can give us clues about their size, and speed, and whether they are slowing down or picking up speed.

When we are riding or driving, it is all too easy to be focused on what is happening immediately in front of us – an analogy used in advanced driving training is that you need to switch your field of vision (and source of information) from dip beam, to full beam. You might be able to look across a field to get a view to the road around a bend, or see traffic that might turn into your road from a cross-roads much further along the road. When cycling in more built up areas, we use the same thinking when passing parked vehicles – we pass them wider than a door's width – *in case* someone were to get out of the car and open the door into our path.

We can also bring good practice from our driving training in to our cycling, and mimic the “mirror, signal, manoeuvre” mantra while on our bikes. Being aware of what is happening on the roads behind us is as important as what we can see in front of us, and we should be carrying out regular shoulder looks, and incorporate them into any manoeuvres that we carry out, from turning left or right, or passing a turning.

☠ **Choosing whether to use cycle on-road facilities such as cycle lanes and advanced stop lines.**

We don't have a great deal of cycle paths in this area – and for some routes they stop and then start. If you fancy a giggle, you can look at the website “Cycle Facility of the Month” which features a range of images of poorly planned cycle paths. However, joking aside, the decision as to whether to use a cycle path lies with the cyclist. In the UK you are not legally obliged to stick to the cycle paths rather than the roads – and this is something that the cycling community has fought hard for, and is determined to keep. In Cyclecraft, Jon Franklin stresses that when you feel it is safer for you to not use these facilities and to ride in the traffic, then you should do so. Some cycle lanes, for example, stop, and start, or cross from one side of the road to the other. If you are to use facilities like these, then the number of occasions when you are having to cross or re-integrate into traffic is increased. From the RoSPA figures: “Almost two thirds of cyclists killed or seriously injured were involved in collisions at, or near, a road junction, with T junctions being the most commonly involved. Roundabouts are particularly dangerous junctions for cyclists” Therefore, if use of cycle lanes puts you in a position of having more “junctions” on your journey, you may feel you are safer if you stick with the rest of the traffic, adopting a suitable road position.

“The second most common contributory factor attributed to cyclists was 'cyclist entering the road from the pavement' “

“In collisions involving a bicycle and another vehicle, the most common key contributory factor recorded by the police is 'failed to look properly' by either the driver or rider, especially at junctions. 'Failed to look properly' was attributed to the car driver in 57% of serious collisions and to the cyclist in 43% of serious collisions at junctions.”

It can also be the case, that bike lanes are less well maintained than the roads themselves, so they collect debris and glass – some of these more offensive articles you just can't spot, and result in punctures.

While this is less the case for very rural cycling, some cycle lanes in towns or villages may in fact be next to parked cars, or have cars parked in them. If you stick to the lanes, then you have to negotiate these stationary vehicles and safely re-integrate into the moving traffic.

If the bike lane offers you a clean, safe place to ride, use it!

3) Training Options

Consider taking part in some training to improve your cycling skills, and to become qualified to teach others. The Black Isle-based Million Miles project is preparing to run some Bike Ability training in the coming weeks – so if you follow **Million Miles** on Facebook or Twitter, you will be kept up to date. **Velocity**, based in Inverness also offers training, both on maintaining you bike, and on Bike Ability, or Cycle Ride Leader.

Most adult cyclists are also drivers – you might wish to consider taking on further training to improve your driving. As with many things, there have been some changes in approach to driving over the years – if it is a while since you're your test, it means it is a while since you received any training in your driving. We tend to take driving our cars as something of a right, but it is also a huge responsibility. Driving and engaging with road traffic as a pedestrian or a cyclist are among the most dangerous things that any of us do on a daily basis, and the situation in which you are most likely to put into use any first aid training you have is in a road traffic accident. On that dark note, **Advanced Driver training** will help you to hone your observation skills and drive with a greater awareness of the road and road-users around you. You may wish to speak to those who have undertaken the training, and find out more about it. Similarly, shorter training, aimed at improving your **fuel-efficiency** is frequently offered by TBI Million Miles project. This is a short 1hour training session, which encourages a range of ways to improve your fuel efficiency – much of which involved observing the road and reducing braking and acceleration through anticipation.

4) Campaigns

Give Me Cycle Space

What is Give Me Cycle Space?

Give Me Cycle Space is a Cycling Scotland campaign to encourage more children to cycle to school. It aims to create high levels of driver awareness around child cyclists to make the roads around schools more cycle-friendly.

How does the campaign work?



Give me
cycle space.

As much space as you
would give a car.



Research shows that although over 30% of children say they want to cycle to school, only around 3% actually do. The main barrier is that parents often don't allow their children to cycle to school because they are concerned about them cycling on-road.

We hope to make parents feel more comfortable about children cycling on-road by creating high levels of awareness amongst drivers about children cycling to school, and directly asking drivers to give children as much space as possible on the

CTC's Safety in Numbers

The safest places to cycle are those with high cycle use. More and safer cycling can, and should, go hand in hand.

That's the message of CTC's Safety in Numbers campaign which explains that the more people cycle; the safer it is for each individual cyclist, since places with high levels of cycling are associated with lower risks.

Possible reasons for the "Safety in numbers" effect are:

Drivers are more aware of cyclists

Drivers are more likely to be cyclists themselves

There is greater political will to improve cycling conditions, such as building infrastructure, reducing speed or increasing enforcement of traffic law

We want to halve the risk of cycling and double the numbers at the same time.

Think Cyclist!

<https://www.gov.uk/government/publications/think-cyclist>

Our overall message is Drivers and Cyclists are more alike than you think – lets look out for each other.

We want to work with influencers and campaigners to help to build a culture of mutual respect and shared responsibility on the road. This campaign marks the start of THINK CYCLIST, and we will be continuing to work with stakeholder organisations to improve safety on the road.



Supporting key messages

When you're driving

1. Look out for cyclists, especially when turning - make eye contact if possible so they know you've seen them
2. Use your indicators - signal your intentions so that cyclists can react
3. Give cyclists space – at least half a car's width. If there isn't sufficient space to pass, hold back. Remember that cyclists may need to manoeuvre suddenly if the road is poor, it's windy or if a car door is opened
4. Always check for cyclists when you open your car door
5. Avoid driving over advanced stop lines – these allow cyclists to get to the front and increase their visibility
6. Follow the Highway Code including 'stop' and 'give way' signs and traffic lights

When you're cycling

1. Ride positively, decisively and well clear of the kerb – look and signal to show drivers what you plan to do and make eye contact where possible so you know drivers have seen you
2. Avoid riding up the inside of large vehicles, like lorries or buses, where you might not be seen
3. Always use lights after dark or when visibility is poor
4. Wearing light coloured or reflective clothing during the day and reflective clothing and/or accessories in the dark increases your visibility
5. Follow the Highway Code including observing 'stop' and 'give way' signs and traffic lights
6. THINK! recommends wearing a correctly fitted cycle

References

- ☠ Cyclecraft, by Jon Franklin New ISBN: 978-0-11-703740-3
<http://www.cyclecraft.co.uk/>

- ☠ Rospa figures on cycling accidents 2013
<http://www.rospa.com/roadsafety/adviceandinformation/cycling/facts-figures.aspx>

- ☠ Great info about cycling road position – animations and videos as well as discussion of the benefits of riding in primary road position – it is American, so driving/ riding on the right.
<http://cyclingsavvy.org/how-my-driving/>

- ☠ Riding two abreast
<http://ukcyclelaws.blogspot.co.nz/p/the-laws-according-to-highway-code.html>

- ☠ Tips on dealing with bad drivers
http://www.bicycling.com/beginners/commuting/how-deal-bad-drivers?cm_mmc=Facebook-_-Bicycling-_-Content-Story-_-bad-drivers

- ☠ Checking your helmet safety
<http://www.bikeradar.com/mtb/gear/article/trail-tech-helmet-safety--38165/>

- ☠ “No such thing as road tax”
<http://www.bbc.co.uk/news/magazine-23694438>

- ☠ Training video for Lothain bus drivers on being cycle-aware
<http://www.youtube.com/watch?v=-71rEJNvMXQ>

- ☠ Article on 2013 Dept of Transport guidance on slowing drivers down
<http://www.bikebiz.com/news/read/dft-issues-robust-new-guidance-on-getting-drivers-to-slow-down/014248>

- ☠ Video showing a Lorry’s blind spots
http://www.youtube.com/watch?feature=player_embedded&v=wzL0Kyk4m-8

- ☠ Guardian Bike Blog article about safety clothing – how safe hi-vis is
<http://www.theguardian.com/environment/bike-blog/2013/jan/10/cycling-high-visibility-safe-fluorescent>

- ☠ Safety in Numbers Campaign
<http://www.ctc.org.uk/campaign/safety-in-numbers>

- ☠ Think cyclist – Lets Look Out for Each Other campaign
<https://www.gov.uk/government/publications/think-cyclist>